Hot-cold medicine revisited: another look at the debate over its origin

Sarah Bourget
Florida Atlantic University,
HOT-COLD MEDICINE REVISITED:
ANOTHER LOOK AT THE DEBATE
OVER ITS ORIGIN

by
Sarah Bourget

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SUPERVISORY COMMITTEE:

____________________________
Dr. Rachel Corr

____________________________
Dr. Jacqueline Fewkes

____________________________
Interim Dean, Wilkes Honors College

____________________________
Date
Anthropologists like George Foster have argued over the origin of Latin American hot-cold medicine since the 1950s. Some argue that it originated within the indigenous populations of Latin America while others argue that hot-cold medicine originated from European humoral medicine. In this paper, I take another look at this debate, focusing on how its practice varies from community to community and relating the debate to changes that have occurred in the discipline of anthropology in recent years. I also look at other lines of evidence, such as the linguistics used in association with hot-cold medicine and the nearly universal existence of the hot-cold dichotomy, in order to support the theory that hot-cold medicine originated within the indigenous groups of Latin America.
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Introduction

In this thesis, I will discuss the debate in anthropology over the origin of hot-cold medicine as it is practiced by folk communities in different areas of Central and South America. Robert Redfield and Alfonso Villa Rojas presented the first anthropological research on the practice of hot-cold medicine in their work, *Chan Kom: A Maya Village*, in 1934. Other anthropologists followed Redfield and Villa Rojas in discussing hot-cold medicine but it was not until the 1950s that the debate over hot-cold medicine’s origin began. For the most part, this debate has been dominated by George Foster, who in works like “On the Origin of Humoral Medicine in Latin America,” argues that the hot-cold medicine of Latin America can be traced back to the European system of humoral medicine. Others like Audrey Butt-Colson and Ellen Messer argue, against Foster, for the indigenous origin of hot-cold medicine. This debate over the origin of hot-cold medicine relates to larger issues in anthropology that deal with the ways in which the discipline has changed over the years. While this debate continued into the 1980s, not much has been written about it in recent years. In this thesis, I intend to take another look at previously written material on both the practice and origin of hot-cold medicine, focusing especially on how this debate was affected by or appears to stray from the changes in anthropology overall. In doing so, I will work to demonstrate the complexity of hot-cold medicine and the ways in which it varies from community to community. It is from this varied and complex nature of hot-cold medicine that I conclude that, while its specifics were most certainly influenced by Europeans, the basic practice of hot-cold medicine originated within the indigenous populations of Latin America.
In chapter one, I describe humoral medicine as it originated in Ancient Greece and influenced the medical system that dominated in Europe until the 17th century (Foster1987: 361). While most of this chapter is devoted to describing the humoral medical system as it was developed by the Greek doctor, Hippocrates, I also briefly trace the ways in which humoral medicine is believed to have spread out to different parts of Europe and Asia. In chapter two, I discuss the anthropological accounts of hot-cold medicine found in different Latin American indigenous societies written by Robert Redfield and Alfonso Villa Rojas, Peter Wogan, and Audrey Butt-Colson and Cesareo de Armellada. These different accounts illustrate how hot-cold medicine varies in both its prevalence and practice from one community to another. In chapter three, I discuss a few different perspectives on the origin of hot-cold medicine as presented by Colson and Cesareo de Armellada, George Foster, Alfredo Lopez Austin, Ellen Messer, and William Madsen. Chapter three also includes a discussion of Foster’s “The Validating Role of Humoral Theory in Traditional Spanish-American Therapeutics” and Holly Mathews’ “Context-Specific Variation in Humoral Classification,” which attempt to explain why hot-cold medicine varies between communities (as demonstrated in chapter one). Both sides of the origin debate refer to different lines of evidence to support either a European or indigenous origin. One such line of evidence, used by both sides of the debate, deals with comparing the linguistics associated with Latin American hot-cold medicine to the linguistics associated with European humoral medicine. I end chapter three with a discussion of how anthropology has changed since the 1960s and how these changes reflect the problems associated with the theory that hot-cold medicine originated entirely
in Europe. This discussion provides a lens through which the work of George Foster should be viewed. In chapter four, I discuss the anthropological works of E. N. Anderson and Peter Worsley who describe how and why the concepts underlying humoral and hot-cold medicine might have been able to spread out so greatly, and the universality of the hot-cold dichotomy respectively. These work, in conjunction with a discussion of how a concern with the balance between hot and cold is incorporated into our own folk medicine, to help us better understand how the hot-cold dichotomy might be found in different cultures and geographic areas without being able to trace it to a single source. The nearly universal existence of the hot-cold dichotomy, along with other evidence brought forth in this thesis, supports the theory that hot-cold medicine originated within the indigenous communities of Latin America.
Chapter One: Background on European Humoral Medicine

I will begin with a summary of the ancient Greek system of humoral medicine in order to later compare and contrast it with the Latin American system of hot-cold medicine. Scholars believe that the humoral theory of medicine originated in ancient Greece with Hippocrates, “the Father of Medicine” during the fifth century B.C. Greek humoral theory either contemporaneously or soon after found a counterpart in both India and China. According to some sources, the practice of the Indian form of humoral medicine or, Ayurveda, began about 5,000 years ago, which would make it older than Greek humoral medicine. Therefore, it is likely that these two systems of Ayurvedic and Greek humoral medicine influenced one another and in turn influenced the Chinese system of humoral medicine. These three systems of Greek, Chinese and Indian medicine differ in their specific beliefs and practices but are categorized together because of the following ways in which they all emphasize the importance of maintaining a balance between different forces internal and external to the body.

Ayurvedic medicine is based on principles of eternal life found in the Vedic traditions. The Ayurvedic system is holistic, meaning that it concerns the mind, body, and spirit. These three parts must be kept in balance in order to maintain health. According to the Ayurvedic system, the Earth is made up of Five Great Elements and individuals can be divided up in to three categories by their chemical make-up and temperament.

The Chinese system of humoral medicine emphasizes the importance of keeping a balance between the two opposite forces of Yin and Yang. According to W. J. Bishop,
these forces “governed all the bodily functions and [that] the chief cause of all diseases was thought to be some disturbance of their balance or an arrest in their flow” (Bishop 1995: 41). Most often illness can be treated with acupuncture, which is thought to restore the balance between Yin and Yang. In acupuncture, long thin needles are administrated into many different but specific points on the body. This is thought to allow penetration into the organ canals that carry Yin and Yang. This needle penetration serves as a way to remove obstructions in the canals and release harmful secretions. From these three origins, humoral medicine spread out to many different parts of the world.

The system continued to develop as new ideas and concepts built upon one another. The Greek doctor Claudius Galen (131-199 A.D.) expanded on the ideas of Hippocrates and his work influenced the work of people like Avicenna in the Islamic empire (980-1037 A.D.). It is now generally accepted that the humoral system of medicine began to wane during the European Middle Ages. This occurred because of an increase in the Roman Catholic Church’s authority, which occurred during this time period. The Church taught that the body was sacred and prohibited surgery, dissection (to learn about disease from the bodies of the dead), and illness investigations. Instead, the Church forced the people of the European Middle Ages to rely on prayer and the intercession of saints to cure and treat those who were ill (Bishop 1995: 58). Avicenna and others kept humoral theory alive in the Islamic empire by translating Greek works on the subject in to Arabic.

Some earlier chroniclers of humoral medicine believe that Avicenna and the other medical leaders of the Islamic empire merely translated but did not add to the Greek
works about the subject. For example, Michael Logan writes, “...knowledge of surgery and human anatomy in the Arab world remained primitive largely because of religious prohibitions.... Accordingly, little was learned in the field of internal medicine and the principle theory of pathology continued to be that promoted by the Hippocratician school” (Logan 1979: 18). Most people writing more recently about the origins of humoral theory, including Bishop and the makers of the film *The Bridge: How the Medicine of the Ancient Greeks Came Back to Europe through the World of Islam*, believe that the Islamic empire did add greatly to and modify the humoral theory of medicine passed on from the Ancient Greeks: “during the Dark Ages that followed the collapse of the Roman Empire medicine and surgery were extensively cultivated in the great Arabic Empire” (Bishop 1995:71). This is but one example of how new evidence and less-biased, more open-minded perspectives on the subject of humoral medicine’s origins have changed the accepted ideas about the subject. This is related to my argument for the indigenous origin of hot-cold medicine. This example of the evolved perspective on the impact of the Islamic Empire on humoral medicine is similar to how perspective changes in anthropology have led to changes in the way that people and cultures are studied in general and the way that the origin of hot-cold medicine has been investigated in recent years. I will discuss these changes in anthropology more thoroughly in chapter three. The concepts behind humoral medicine and its practice spread out along with the Islamic empire, which included much of Spain. Humoral theory (with Islamic additions and alterations) found its way back to Europe during the 12th century A.D. (Jamek film: 1998). From there, the ideas and concepts that make up humoral medicine spread out to
many parts of the world, where they were manifested in different ways. Some argue that the humoral theory of medicine was brought to the New World, by Spanish and Portuguese conquerors and colonists during the 1500s where it took on a new form referred to as the Hot-Cold theory of medicine. There are some, like myself, who argue against an Old World origin for Hot-Cold medicine and believe that it originated in Latin America itself. This debate will be discussed more thoroughly in chapter three.

Hippocrates

I will now discuss the contributions of Hippocrates to early medicine, especially focusing on his contributions to the humoral theory of medicine. I will do so because many of the writers to be discussed in chapters two and three refer to Hippocrates’ work, arguing either for or against the theory that Greek humoral medicine laid the foundations for Hot-Cold theory in Latin America.

Hippocrates could be described as a sort of mythical figure, although he really did exist historically: “the truth [about Hippocrates] was simply ignored in favor of all sorts of nonsense calculated to dazzle the innocent and impress the gullible” (Levine 1971: 15). According to E. B. Levine, the fact that Hippocrates was a real person in history is incontestable. He was born in the city of Cos during the 5th Century (Levine 1971: 19). In addition to these basic facts about the life of Hippocrates, he is also traditionally (or at least symbolically) identified as the author of over sixty works on medical theory and practice. These different works range widely in their contents and include many contradictions when read comparatively. Most historians now suspect that the Hippocratic corpus was actually written by a number of different people (perhaps
followers of Hippocrates). While he is perhaps best known for the Hippocratic Oath taken by many medical students even to this day, Hippocrates contributed greatly to the foundations of the modern day system of western medicine. Some scholars even go so far as to say that “...modern medicine is but a series of commentaries and elaborations on the Hippocratic writings...” (René Dubos in Levine preface 1971: 15). Hippocrates is identified as being the first medical practitioner and theorist to separate medicine from philosophy and religion. He was also influential in emphasizing the importance of observation in order to learn about the human body, illness, and the most effective treatment for a particular illness.

Most of Hippocrates’ descriptions of humoral medicine come from a relatively short work entitled The Nature of Man. In general terms, Hippocrates describes humoral medicine as an attempt to maintain a balance between the four humors of the body: blood, phlegm, yellow and black bile. These four humors are connected to the different seasons, elements, physical qualities, and human temperaments. Blood is associated with spring, air, hot/wet, and sanguine (optimistic disposition). Phlegm is associated with winter, water, cold/wet, and phlegmatic (unemotional and stolidly calm). Yellow bile is associated with summer, fire, hot/dry, and choleric (bad-tempered or irritable). Lastly, black bile is associated with fall, earth, cold/dry, and a melancholic disposition.

Some individuals are classified as naturally having an excess of these humors and subsequently the associated temperament. For example, an individual with a sanguine temperament would be considered to have an excess of blood. Unnatural excesses of

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1For simplicity’s sake, I will continue to use the singular term “Hippocrates” to identify the multiple authors of the Hippocratican corpus.
these humors could cause an imbalance called dyscrasia and an illness called cacochymia. This means that external forces were thought to, “either [reinforce] and [co-operate] with the natural temperament [of an individual] or [act] of their own accord” far as to say that “...modern medicine is but a series of commentaries and elaborations on the Hippocratic writings...” (René Dubos in Levine preface 1971: 15). Hippocrates is identified as being the first medical practitioner and theorist to separate medicine from philosophy and religion. He was also influential in emphasizing the importance of observation in order to learn about the human body, illness, and the most effective treatment for a particular illness.

(Brock 1977: 10). These external forces can be many different things, especially diet and activity. Also, humoral balance is different for each individual so that when treating people, doctors had to determine one’s natural balance and elicit the appropriate changes. Humoral doctors could treat excessive humors by expelling them from the body by way of treatments like bloodletting and purging. Treatment also often entailed the principle of opposites, which combats an imbalance in one quality with an increase in its opposite. Hippocrates employed two forms of this principle of opposites: hot/cold and wet/dry. According to George Foster, the hot-cold theory of medicine practiced in parts of Latin America is a simplified version of humoral medicine. Foster argues that the people of Latin America who encountered the Spanish and Portuguese imperialists merely adopted the European principle of opposites (only in its hot/cold form) and ignored all the other elements of humoral medicine.

Chapter Two: Variations in Latin American Hot-Cold Medicine
In chapter one, I discussed humoral medicine as it existed in Europe prior to the 17th century. In this Chapter, I will describe hot-cold theory as it is practiced in different parts of present-day Latin America. While the hot-cold dichotomy does relate to humoral medicine in some ways, it is also very different from the humoral system of medicine. I will attempt to describe these differences by looking at different accounts of hot-cold medicine as it is practiced in different Latin American folk communities. Indeed, hot-cold medicine does vary by community in prevalence from being the dominant to a more subsidiary medical system. For the most part, it is associated with the cause, diagnosis, and treatment of illness. Keeping a balance between hot and cold is maintained by tailoring one’s diets and lifestyle to include equal amounts of “hot” and “cold” foods and activities. When an imbalance in hot or cold occurs, the result is illness. Illness can be treated with the consumption of or participation in the opposite food or activity. For a simple example, if an individual becomes sick after eating hot foods without enough cold foods, the subsequent illness is treated by feeding the individual increasing amounts of cold foods until the individual is thought to have recovered. What follows is a discussion of the observations of different anthropologists ranging in both the time period and the region in which they studied.

Chan Kom

Hot-cold medicine was first described by Robert Redfield and Alfonso Villa Rojas in their ethnographic text entitled Chan Kom: A Maya Village in 1934. In this text, Redfield and Villa Rojas include a section about hot-cold medicine amongst information about the history, economics, religious life, etc. practiced in Chan Kom, which they
describe as “a peasant village” in the Yucatan peninsula of Mexico. Redfield and Villa Rojas explain that the people of Chan Kom mostly blame illness on supernatural causes. In other words they attribute a majority of the illnesses suffered by members of their community to “…an evil influence [that] was involuntarily communicated from an outside source to the sufferer, or because someone wished it so” (Redfield 1934: 160). The practice of hot-cold medicine is an exception to these beliefs in the supernatural causes of illness.

Redfield and Villa Rojas compiled lists of foods categorized by the Chan Kom people as “hot” or “cold.” For example, honey, coffee, and beef are considered hot while limes, pork, and rice are considered cold. In addition to hot and cold foods, Redfield and Villa Rojas also witnessed a third intermediate category that included foods like oranges, beans, and tortillas. As evidenced by these examples, the way in which foods are categorized often is unrelated to their temperature or spicy taste. Instead, foods are categorized according to the effect they have on an individual: “‘cold’ things are ‘cold’ (ziz), not so much because their temperature is low, as because in the case of foods, they are good for fevers and bad for chills; or because, in the case of plants and other parts of nature, they are green, fresh, and suggestive of water” (Redfield 1934: 130). Furthermore, cold foods are thought to take longer “to cook” in the body than hot foods. Because of this, cold foods are consumed more often in the morning hours so that they have more time to be “cooked.” People in normal health and under normal conditions are able to eat all foods without too much worry about whether they are eating hot or cold foods as long as neither category is consumed in excess.
In Chan Kom, each person is characterized, in their normal state, as either belonging to the hot hands (choko kab) and hot blood (choko kik) group or the cold hands (ziz kab) and cold blood (ziz kik) group. These groupings are thought to influence different characteristics. For example, women with cold hands and blood are thought to be unsuccessful in cooking while men with cold hands and blood are not expected to help prepare foods for or open the oven. It is thought bad for a hot man to marry a cold woman and visa-versa because it will cause one of the spouses to become ill. Similarly, domestic animals are also classified in this way.

Redfield and Villa Rojas also discuss specific illnesses defined by the people of Chan Kom as either hot or cold. One such illness, pasmada which translates as “chilled” or “numbed” is a cold illness that occurs when an individual comes into contact with something cold when they are warm from exercise or other physical activity. Pasmada causes the individual, more often a woman, to feel weak and develop anemia and/or a loss of appetite. Sometimes treatment of a hot-cold illness can cause a complication which increases the severity of a patient’s illness. For example, an individual suffering from a fever might be bathed in “an infusion of lime-leaves” (Redfield, 1934, 162). Limes are considered to be the “coldest” food and therefore serve well as fever-reducers. At the time when Redfield and Villa Rojas were doing their field work in Chan Kom, there had been two incidents of people who became lame believed to be from a lime bath treatment that was too powerful.

One of the main responsibilities of the Chan Kom medicine men, called h-men, is to determine whether the patient is inflicted by a hot or cold illness. The symptoms of the
illness itself may indicate whether the patient is suffering from an imbalance of hot or cold. Sometimes, though, it is difficult to determine by way of the illness’ symptoms. In cases such as this, the h-men blood test the patient. Blood is drawn from the patient and placed in a number of pieces of corn husk. A small amount of both “hot” and “cold” substances are added to the husks. The h-men then add one to two drops of sour orange juice to the husks and stirs the mixture. The color of the mixture helps the h-men to determine whether the illness is hot or cold: “if the blood turns a clear red color, it means that the orange juice is suitable to that blood and therefore the patient may take foods that are ‘half-cold’... If the blood turns black when orange juice is put into it, it means that the patient should take ‘hot’ things” (Redfield 1934: 163). With this diagnosis of hot or cold, the patient is then treated accordingly.

Aside from everyday life and the diagnosis/treatment of illness, the hot-cold dichotomy is also incorporated into some of the rituals and ceremonies of the Chan Kom people. During such ceremonies, offerings are made to the gods (yuntzilob), which are thought to own all the flora and fauna used and consumed by the people of Chan Kom. All the offerings made to yuntzilob are “cold.” This is because the punishments of the yuntzilob always come in the form of fevers. Cold offerings, therefore express the desire to avoid punishment from the gods. Furthermore, cold offerings are thought to protect Chan Kom, “from evil winds, which are associated with ‘hot’ foods, ‘hot’ lands, and ‘hot’ plants” (Redfield 1934: 130). By taking a preventive role to avoid hot-illness, the people of Chan Kom incorporate their beliefs about the hot-cold dichotomy with other beliefs about the supernatural causes of illness.
Hot-Cold in Salasacan Ritual

Peter Wogan also describes a ritual involving hot-cold theory in *Magical Writing in Salasaca: Literacy and Power in Highland Ecuador*. This ritual takes place during the Day (actually it usually spans days or even months) of the Dead ceremonies that take place annually in November in Salasaca. The Day of the Dead is an example of syncretism as it mixes elements of Catholicism (All Soul’s Day) with indigenous beliefs and practices (cult of the dead). The souls of the dead are believed to return to the realm of the living during this period of the year. The spirits of the dead are described as “hungry, thirsty, and agitated” and the living work to send them back to the other world by “remembering, feeding, cleansing, and appeasing them” (Wogan 2004: 98). During the second day of the Day of the Dead, the ritual involving hot-cold theory takes place. During a special mass (called the Response Mass), a priest reads off lists of deceased members of the community. At the end of the mass each family is given a list of all their dead relatives and are supposed to hide the list in their homes for years.

These name lists are very important to the people of Salasaca because they believe that the lists “cool off” the dead souls. In fact, when the people are on their way to the Response Mass they often make references to “cooling” such as: “Come on, let’s go cool off the souls” (Wogan 2004: 99). During the ritual mass, a member from each family brings a donation to the altar and the priest sprinkles cooling holy water onto the dead soul name list for his or her family. The Salasacas believe that their dead relatives are present in the list while it is being sprinkled and that this act cools them off. One indigenous informant stated, “I’m cooling off the dead souls” when the priest sprinkled
water on to his family’s list. Wogan illustrates the importance of this process by giving an example of when a priest tried to skip the sprinkling of holy water step. The priest was trying to save on time because there was such a large group of people so he attempted to not sprinkle one list. The owner of that particular list did not allow the priest to follow through on not sprinkling his list. Some people even asked for more than one sprinkle of water. Wogan explains that holy water is thought to have a cooling effect because it symbolizes the blessing of the church and protection from the devil and the fires of hell. The incorporation of hot-cold theory into this ritual is similar to the common practice of drinking a traditional corn beer (chicha) after the mass. This drinking lasts all night and is believed to also cool off the dead because chicha is temporally cold from its fermentation process. This corn beer is also used symbolically as water when some men perform an imitation of the priests acting out the Response Mass. The Salasacas also pour this corn beer on the graves of the dead in order to cool them.

Wogan goes on to explain the way that hot-cold theory fits well with Salasacan and other indigenous conceptions of duality. Wogan also states that “because of its flexibility, simplicity, and comprehensiveness, the hot-cold system has proved remarkably tenacious” (Wogan 2004: 99). While the dead souls do not suffer from the ailments that hot-cold theory addresses for the living, “they are burning up with hunger, thirst, sadness, and agitation–states of disequilibrium classified as hot for both the living and the dead” (Wogan 2004: 99). Furthermore, the dead souls also come from a place characterized by great heat, frying pans, and flames. In other words, because the dead souls all “burn” for their sins committed in life, the living feel compelled to cool them by
having the name lists sprinkled by holy water at the Response Mass during the Day of the Dead.

The Origin Debate in *Chan Kom*

Redfield and Villa Rojas do not discuss the origin of hot-cold medicine in Latin America save for a small section in the appendix of their text. Their discussion of the origin in the appendix is rather ambiguous, though, because they do not choose either an indigenous or European origin: “whether the distinction between ‘hot’ and ‘cold,’ with respect to foods, medicines, plants, persons, and the lands, goes back to Indian or Spanish antecedents--or to both--could probably be answered by a marshalling (sic) of more facts than I can command” (Redfield 1934: 372). After all, it was not really until Foster published his article “Similarities between Spanish and American Folk Medicine” in the 1950s that the debate over the origin of Latin American hot-cold medicine began. Although Redfield and Villa Rojas do not argue directly for the indigenous or European origin of hot-cold medicine, they do state at the beginning of their appendix section that “the contact of Spanish culture with Indian was not an addition of one and one to make two, but a fusion and complicated interaction resulting in a third thing, which was neither the one old thing nor the other” (Redfield 1934: 363). In other words, the modern-day culture of the Chan Kom people can not be traced to either a Spanish or indigenous origin independently. If one extends their argument here to include hot-cold medicine, then the debate over its origin becomes more complicated than one side versus the other side: indigenous versus European. The debate indeed, includes a gray area where the origin of hot-cold medicine must be thought of in terms of its indigenous origin as well as its
European influence.

The Akawaio and Pemon

I will now discuss an article written in 1983 by Audrey Butt-Colson and Cesareo de Armellada entitled “An Amerindian Derivation for Latin American Illness and their Treatment.” Colson and Cesareo de Armellada describe the medical system practiced by the Akawaio and Pemon people of the Guiana Highlands on the borders of Venezuela, Brazil, and Guyana. Colson and Cesareo de Armellada argue that the Akawaio and Pemon cultures are quite similar as they speak the same language and practice nearly identical medical systems. Colson and Cesareo de Armellada refer to the examples throughout their article in order put the medical systems of the Akawaio and Pemon in general terms: “all through the ethnography one can find examples of a concern with equilibrium, which is regarded as the norm. Temperature, whether physiological or sociologically assigned, is a basic factor” (Colson 1983: 1237). With this generalization, the medicine practiced by the Pemon and Akawaio can be characterized as hot-cold medical systems, where individuals must be careful to avoid the excess of either hot or cold.

Colson and Cesareo de Armellada also describe the Akawaio and Pemon hot-cold systems in specific terms and examples. Colson and Cesareo de Armellada explain that the influence of beliefs about the supernatural causes of illness upon Akawaio and Pemon hot-cold medicine differ from Redfield’s and Villa Rojas’ observations and descriptions of the Chan Kom medical system. Redfield and Villa Rojas claim that hot-cold medicine is typically distinct from the more supernatural based medicine also practiced in Chan
Kom while Colson and Cesareo de Armellada demonstrate that beliefs about hot-cold and supernatural medicine are almost always combined in the Akawaio and Pemon societies.

Colson and Cesareo de Armellada explain that the Akawaio and Pemon recognize cold illness from the sensations felt and described by the sick individual. Cold illness sensations include shivers, epileptic fits, fainting, swooning, excessive fright, alarm, and shock. At certain points throughout an individual’s life they are considered more cold and therefore more prone to cold illness. One example of this occurs during the period of female puberty. They then go on to discuss many of these cold illness causes more in-depth, along with treatments. For example, when an individual is sick from being in a state of shock, they are thought to have lost their soul (*etinipui/eseirepui*). Because this is a cold illness it requires a warming up process and the soul must be called back to its body. The main treatment utilized is the singing of *murua* songs by shamans during a seance. These songs are believed to warm up people. The Pemon and Akawaio also use warming resins and call on the spirits of animals and insects to treat cold illness. Some cold illnesses are attributed to nature spirits. Typically these nature spirits belong to the *Mayikok*, who are spirits associated with the deep forest.

Colson and Cesareo de Armellada explain that hot illnesses are not associated with soul loss. The symptoms of hot illness are associated with a feeling of internal heat, thirst, inflammation, swelling, sores, skin lesions, perspiration, and semi-consciousness. The cause of hot illness comes from the penetration of the body by a poisonous heat-inducing agent, which may be the work of either another person or a nature spirit who wished the sick individual harm. Hot illness is treated with opposite invocations or
extraction of the poisonous substance by a shaman. A shaman may also call upon mountain spirits to help cool down the individual.

Chapter Three: The Origin Debate

In chapter two, I discussed the hot-cold medical systems practiced by the Chan Kom, Akawaio, and Pemon people. In this Chapter, I will discuss the debate over the
Colson and Cesareo de Armellada spend some time rebutting the criticisms written in George Foster’s article “On the Origin of Humoral Medicine in Latin America” (to be discussed later) about Colson’s findings in “Binary Oppositions and the Treatment of Sickness among the Akawaio.” One of Foster’s main arguments against Colson is that the medicine of the Akawaio is not related to the hot-cold medicine found throughout much of Latin America. He claims that the Akawaio subscribe to a shamanistic medical system that is based too much upon beliefs about the supernatural environment to be classified as a hot-cold medical system. To support this claim, Foster utilizes the medical anthropology model for non-western medicine that divides medical systems into two types of etiologies: personalistic and naturalistic. According to Foster a personalistic medical system can be defined as, “…one in which disease is explained as due to active, purposeful intervention of an agent, who may be human (a witch or sorcerer), nonhuman (a ghost, an ancestor, and evil spirit), or supernatural (a deity or other powerful being)” (Foster 1976: 775). He defines a naturalistic medical system as, “...[those that] explain illness in impersonal, systematic terms. Disease is thought to stem, not from the machinations of an angry being, but rather from such natural forces or conditions as cold, heat, winds, dampness, and, above all, by an upset in the balance of the basic body elements” (Foster 1976: 775). Foster believes that hot-cold medicine belongs to the naturalistic type while the medicine practiced by the Akawaio is personalistic. Colson and Cesareo de Armellada argue that Foster’s division of these two types of etiologies is too oversimplified. They believe that causation systems can not
always be separated in absolute terms because in some cases, there are different levels of causation which vary between naturalistic and personalistic.

In the Akawaio and Pemon cases, Colson and Cesareo de Armellada argue that there is a range of curing which is outside the shamanistic sphere. This range of medicine is widespread, naturalistic, practical, and does not include rituals or medical specialists. Instead, it includes plant, animal, and/or mineral remedies that are based upon a classification system. If the health of a patient is not restored by these remedies, then personalistic etiologies are utilized. Here shamans are called upon to discover the hidden causes of illness and help eliminate them. In these ways, the two etiologies co-exist to make up an elaborate medical system similar to those described by Foster as hot-cold medical systems.

Colson and Cesareo de Armellada go on to explain that there are actually three levels associated with the causation of illness (and natural misfortunes) for the Akawaio and Pemon people. For example, the cause of falling down might be attributed to an offended spirit. At another level, a human agent might be thought to have caused the misfortune. On a third level, the occurrence might be interpreted as the result of an imbalance of hot and cold induced by humans or spirits. There are also different treatments at each of these levels of causation. One stage may call for plant remedies while a later level might call for the case history of the patient. Natural forces may be personified or made to represent abstract qualities such as hot or cold so that they can be treated. For example, in some cases of soul loss, strong winds (cold) from the mountains are personified as a nature spirit called *Kuranau*. In order to treat this illness *Kuranau* is
called upon by a shaman during a seance: “Kuranau was ‘seen’ or perceived... and [the shaman] forced the culprit to come down to the seance and return the captive soul of the sick person” (Colson 1983: 1236). This treatment follows the principle of opposites as the cold source of illness is weakened by murua songs which are thought to warm-up the sick individual.

The main argument running throughout this article deals with the origin debate of hot-cold medicine in Latin America. Colson and Cesareo de Armellada describe the medical systems of the Akawaio and Pemon as an attempt to argue for the indigenous origin of hot-cold medicine. Colson and Cesareo de Armellada studied the historic records of the Guiana highland region and explain that the difficult access of the areas inhabited by the Akawaio and Pemon by outsiders kept them from being discovered by Europeans until 1838 and unsettled by Europeans until 1927. While the authors do concede that the Akawaio and Pemon did have some contact with outsiders prior to 1838, they also argue that the indigenous cultures of this region remained predominant and reflect little European influence over the past one hundred years. Colson and Cesareo de Armellada claim that there is some evidence in the historic records of European influence on the religion but not the medical systems of the Guiana highland area.

One such line of lacking evidence is not only discussed by Colson and Cesareo de Armellada, but George Foster as well. The Latin American medical systems observed by Colson, Cesareo de Armellada, and Foster do not emphasize the importance of maintaining a balance between the wet-dry dichotomy which is associated with the European system of humoral medicine. For Foster, the absence of a wet-dry dichotomy
indicates that the European model of humoral medicine was simplified by the indigenous populations of Latin America that adopted it. Colson and Cesareo de Armellada disagree with Foster’s theory: “[this important difference is a clear indication] of a different set of underpinnings to the medical system of indigenous Americans to that which existed in the classical systems of Europe and the Middle East” (Colson 1983: 1241). Furthermore, Colson and Cesareo de Armellada also discuss the findings that some Tropical Forest communities subscribe to a bitter (or sour)-sweet dichotomy. These findings along with Colson’s and Cesareo de Armellada’s descriptions of the Akawaio and Pemon medical systems, such as their varying levels of causation and complex classification systems, help to demonstrate that the hot-cold systems of Latin America are anything but simplified.

Colson and Cesareo de Armellada also argue that the Akawaio and Pemon medical systems are such deeply inherent parts of the Pemon and Akawaio societies that they must be indigenous in origin. According to Colson and Cesareo de Armellada, it would have been impossible for the Akawaio and Pemon to have borrowed the set of concepts and practices associated with their medical systems because they form a “cognitive and operative system deeply embedded in language and culture” (Colson 1983: 1241). The authors support the claim that hot-cold medicine is embedded in the Akawaio and Pemon language by explaining the difficulty of directly translating disease related information into English or Spanish: “the kinds of translations which are made preclude an external origin, for the concepts underlying them have often had to be adjusted to meet those which do not appertain to traditional Amerindian society” (Colson
In other words, some of the words used to describe hot-cold medicine in the Akawaio and Pemon language can not be found in the English or Spanish languages. This suggests that the concepts associated with hot-cold medicine differ from many of those associated with humoral medicine.

Colson describes many of the ways in which the hot-cold dichotomy is embedded into the Akawaio culture in her earlier article, “Binary Oppositions and the Treatment of Sickness among the Akawaio.” For example the hot-cold dichotomy is associated with the Akawaio concepts of the body and soul. The hot-cold dichotomy also plays an important role in the life cycle rituals that accompany birth, puberty, and death. The importance of hot-cold medicine to the culture of the Akawaio and Pemon is also indicated by the metaphors and symbolism associated with the diagnosis and treatment of illness. These metaphors and symbols are manipulated according to their social context and influence the interpretation of both nature and culture.

In their conclusion, Colson and Cesareo de Armellada attempt to extend their claims about Pemon and Akawaio hot-cold medicine to the other traditional societies in Latin America that practice it. While they do admit that there is some variation in the hot-cold medicines practiced throughout Latin America, Colson and Cesareo de Armellada argue that there is enough commonality between these different systems to compare them. Colson and Cesareo de Armellada attempt to prove that there is commonality between the different hot-cold systems by way of examples. In one such example, Colson and Cesareo de Armellada claim that the Mestizo illness of susto can be compared to the Pemon and Akawaio cold illness of soul loss (etinipui/eseirepui).
George Foster’s strongest criticism (to be discussed later) of Colson’s and Cesareo de Armellada’s article deals with this extension of their claims about Pemon and Akawaio hot-cold medicine to the rest of Latin America.

George Foster’s Rebuttal

In “On the Origin of Humoral Medicine in Latin America,” Foster argues in support of an European origin of hot-cold medicine in Latin America and argues directly against the theories put forth by Audrey Butt-Colson and Alfredo Lopez Austin. Foster is also critical of a third theory on the dual origin of hot-cold medicine. He states that a dual origin is unlikely because he believes there would be more differences between humoral and hot-cold medicine if the origin was dual in nature. According to Foster the opposite is true: “...similarity and not difference, is what the comparative picture shows, so much so that unless an author is specific, it is usually impossible to identify the cultural-linguistic affiliation of the group studied” (Foster 1987: 358). The solidity of this above statement is threatened by evidence brought forth in this thesis that the hot-cold medicine of Latin America is indeed different in many ways from humoral medicine.

In “On the Origin of Humoral Medicine in Latin America,” Foster explains that the humoral medicine practiced in Spain prior to the conquest of the Americas was confined to the educated classes, such as the clergy and physicians. According to Foster, it was the clergy members that played the most significant role in bringing humoral medicine to the indigenous groups of Latin America. It is important to note, though, that

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2 Foster typically uses “humoral theory/medicine” in place of “hot-cold theory/medicine” because he believes these two terms to be one in the same. I will continue to use “hot-cold theory/medicine,” though in order to avoid confusion and remain consistent with the terminology used
Alfredo Lopez Austin argues that we do not have a record of how humoral medicine was adopted at the popular level in Spain. This is because our information about Old World humoral medicine comes from European and Arabic scholarly texts rather than ethnographic accounts. Foster also argues that the names of hot-cold illnesses and treatments and the terms used to describe the hot-cold dichotomy are for the most part, the same as those found in classic European humoral texts. For Foster, the only way to explain this occurrence lies in his theory that hot-cold medicine originated out of European humoral medicine. Foster’s argument here is significant but certainly not absolute because Spanish terms may have been adopted to describe ideas and practices already in place.

Foster criticizes many of Colson’s arguments for the indigenous origin of hot-cold medicine. Colson claims that the Akawaio people were isolated from outsiders but does mention that some individuals did travel for trading and exploration. For Foster, this means that European influence was brought back to the Akawaio by those who traveled. Perhaps Foster’s strongest criticism of Colson’s arguments deals with her attempt to extend the indigenous theory beyond the areas in which she studied: “a complex question like the origin of humoral medicine in the Americas can not be solved by adducing evidence from a single, relatively isolated example and then jumping to cosmic conclusions” (Foster 1987: 373). Perhaps Colson should have gathered more information about the hot-cold medical systems found in other parts of Latin America before extending her arguments beyond the Akawaio and Pemon. Colson’s findings can be throughout most of this thesis.
combined, though with the work of other anthropologists studying the origins of hot-cold medicine to support her theories.

One such anthropologist is Alfredo Lopez Austin, who Foster also criticizes in “On the Origin of Hot-Cold Medicine in Latin America.” Foster first addresses Lopez Austin’s claim that there are both Nahuatl and Latin texts which support a New World origin of hot-cold medicine. Lopez Austin mostly refers to Sahagun’s Florentine Codex to support his theory because it allegedly includes information about hot-cold medicine collected from indigenous informants. Foster questions whether Sahagun’s text provides any indigenous information, though: “does [Sahagun’s text] reflect an indigenous humoral theory of illness, or does it represent the effort of classically trained scholars and scribes...?” (Foster 1987: 375). In Humoral Medicine: A Study of Change in a Traditional Medical System of Highland Guatemala, Michael Logan explains that Sahagun’s texts were indeed highly hispanicized: “many intrusive European elements no doubt surfaced unconsciously during the Spainards’ attempt to elicit and record aboriginal customs” (Logan 1974: 26). By discrediting the indigenous value of Sahagun’s text, Foster weakens the written evidence that hot-cold medicine existed in Latin America prior to the arrival of the Spanish.

Foster also attempts to weaken Lopez Austin’s argument that the cosmology of many indigenous groups in Latin America is proof that hot-cold medicine originated in the New World. Lopez Austin describes the indigenous cosmology in detail, especially focusing on the ideas that a balance must be maintained between all of creation’s opposite forces like hot and cold. Foster, while he accepts that the indigenous cosmology
did incorporate the hot-cold dichotomy, does not agree with Lopez Austin’s claim that this proves that the hot-cold dichotomy was utilized in Latin American medicine prior to the arrival of the Spanish. In “The Hot and Cold in Latin American Indigenous and Hispanicized Thought,” Ellen Messer strengthens Lopez Austin’s argument by explaining that the cosmological system of indigenous Latin America was incorporated into all facets of the indigenous societies that subscribed to it. If the cosmology’s significance is not overstated by Messer then Foster’s rebuttal against Lopez Austin does not hold up. In other words, if their cosmology was indeed incorporated into every facet of indigenous life, then the hot-cold dichotomy would most likely have played a role in the diagnosis and treatment of illness.

In another article, entitled “Hippocrates’ Latin American Legacy: ‘Hot’ and ‘Cold’ in Contemporary Folk Medicine,” Foster attempts to resolve the problems that supporters of the New World Origin have with humoral medicine in Latin America by addressing a number of different issues. Foster explains that European humoral medicine was maintained for so long because it can be characterized as a scientific paradigm and was embedded in a world view common to the European cultures that practiced it. Humoral pathology fits to Kuhn’s model by existing as a more reasonable explanation for health and illness when compared to the supernatural explanations that preceded humoral theory. According to Kuhn, a scientific paradigm will remain until it is replaced by a more effective one. In this way, humoral pathology was able to remain in practice in Europe up until the 16th or 17th centuries.

Foster also attempts to explain the resiliency of humoral medicine in Europe by
claiming that every European culture practicing humoral medicine prior to the 16\textsuperscript{th} or 17\textsuperscript{th} centuries, held a world view in common. This world view dealt with the nature of knowledge: “...all knowledge is finite.... There is only so much of it in the world.... A search for new knowledge through empirical investigation is therefore a waste of time” (Foster 1978: 11). Furthermore, Foster explains that it is only been in recent centuries that knowledge is thought of as infinite. Foster’s claim about the finite nature of knowledge explains that experimental science was not commonly practiced, which means that finding an alternative to humoral medicine was not a major concern prior to the 16\textsuperscript{th} century.

Foster attempts to describe the context of Latin America following the arrival of the Spaniards. He explains that the indigenous populations experienced a period of turmoil with depopulation and the forced acceptance of Spanish culture. Acceptance occurred as the result of formal policy and planning and the result of an informal, unplanned diffusion process. For Foster, it is easy to assume that Spanish medical beliefs and practices also diffused into the indigenous and mestizo communities of Latin America. Foster also outlines the different modes of transmission through which the Spaniards brought humoral medicine into Latin America. The modes of transmission include recetarios (medical books), apothecaries, missionaries, and (most especially) clergy members.

Lastly, Foster attempts to explain why only the hot-cold dichotomy remained in the folk medicine of Latin America. He explains that the fully developed system of humoral pathology was only able to be maintained in Europe through written references.
In other words, Foster argues that the human mind is incapable of storing, retrieving, and passing on thousands of different combinations, remedies, concepts, etc, and that humoral medicine had to be simplified in order to be practiced in societies lacking widespread written documents on medical knowledge. Foster’s claim here is contradicted by the research and writings of Holly Mathews (to be discussed later) who explains that there are different cognitive structures involved in the storage, retrieval, and passing on of hot-cold concepts within parts of Latin America. Foster argues that the humoral system of medicine had to be simplified, by doing things like dropping the wet-dry dichotomy, because this medical system seemed most critical to the indigenous populations of Latin America. Foster does not expand on what he means by “most critical” here. It could very well be that the European system of humoral medicine seemed critical because the indigenous populations already subscribed to similar beliefs.

Many of Foster’s ideas found in this article can also be found in his book by a similar title: *Hippocrates’ Latin American Legacy: Humoral Medicine in the New World*. Ellen Messer analyzes and directly criticizes Foster’s book. She starts off with a chapter by chapter summary of Foster’s book. Messer then includes strong arguments against a number of Foster’s ideas. Messer’s overall refute against Foster is two-fold. Foster is inaccurate in arguing that hot-cold theory is strictly from an Old World origin. In doing so, Foster ignores the cosmological system of Latin America prior to the arrival of the Spaniards (i.e. the context).

Ellen Messer on Cosmology

Messer describes her own experience with and subsequent ideas about hot-cold
theory in “The Hot and Cold in Latin American Indigenous and Hispanicized Thought.” She is especially concerned with the cosmology of the indigenous populations of Latin America prior to the arrival of the Europeans. Messer re-examines the cosmologies of the Aztec, Maya, and Zapotec cultures as studied by anthropologists like Alfredo Lopez Austin and Alfonso Villa Rojas.

In Cuerpo Humano e Ideología: Las Concepciones de los Antiguos Nahua, Lopez Austin argues against Foster’s claim that Latin Americans uniformly adopted the hot-cold dichotomy and ignored the wet-dry dichotomy and the different degrees of hot and cold, which were all part of the European humoral system. Instead, he argues that the hot-cold division was used to classify bodily conditions and medicines along with other aspects of the cosmos before the arrival of the Spaniards. Lopez Austin also explains that the practice of hot-cold classification differed throughout the different cultural groups of Latin America.

According to Lopez Austin, the Aztec hot-cold system was not confined to the field of medicine. Instead, he argues that “the duality [of the hot-cold system] systematically and symmetrically encompassed the whole cosmos” (Lopez Austin in Messer 1987: 339). This meant that the system was applied to not only human health, but also animals, plants, the days of the week, the stars, etc. These non-human applications were never a systematic part of European humoral medicine. Furthermore, Lopez Austin suggests that the Spaniards, most likely, did not encourage the indigenous populations to adopt the humoral system to their ideas about days of the week and stars.

Messer also discusses Lopez Austin’s claim that the modern people who trace
their ancestry to the ancient Aztecs still maintain a distinctive set of correspondences such as the heavens (high) versus the earth (low) and male (hot) versus female (cold). The Aztecs participate in other distinctly indigenous practices involving the hot-cold dichotomy. For example, the qualities of hot and cold sometimes take the form of spirits or deities that are believed to cause disruptions in the balance of hot and cold and to lead to illness. Both Lopez Austin and Messer agree that these findings run parallel to the ideas and practices found in other indigenous groups. In summation, both Messer and Lopez Austin believe that the hot-cold theory practiced in Latin America was built upon a “...non-Hispanic indigenous cosmovision, which varied by culture” (Messer 1980: 340). Lopez Austin argues that this theory of hot-cold medicine’s origin makes more sense than Foster’s theory because it is difficult to understand how so many Latin American groups from separate starting points of culture, language, setting, and medical theory would have so willingly and rapidly accepted the theory of humoral classification in medicine yet rejected the practice of maintaining a balance between the four humors of the body.

Messer also discusses the ways in which hot-cold medicine varies among the different societies and cultures of Latin America. Foster himself mentions the variance between categories of hot, cold, and neutral and even differing degrees of hot and cold. Messer describes how the Maya people of Chiapas associate heat with soul and ritual power. They also consider heat to accumulate with maturity, knowledge, and the mastery of ritual power. The Mitla Zapotec of Oaxaca distinguish between seven different categories of hot and cold values. Both the Yucatec Maya and the Mitla Zapotec have
different concepts and terms for the sun’s heat and internal heat. This distinction is not found in Spanish where both the sun’s heat and internal heat are referred to as *caliente*. These and many other variations suggest that there are different lexical and cosmo-political differences between indigenous hot-cold medicine and European humoral medicine. These differences between humoral and hot-cold medicine support the theory that hot-cold medicine originated within the indigenous communities of Latin America.

**William Madsen on Cosmology**

William Madsen also describes how the indigenous cosmologies of many Latin American cultures were compatible with the hot-cold dichotomy but supports the European origin of Latin American hot-cold medicine in his article titled “Hot and Cold in the Universe of San Francisco Tecospa, Valley of Mexico.” Madsen explains that the modern-day people of Tecospa, Mexico believe that the universe exists by a balance of opposites such as war and peace, life and death, hot and cold. Madsen argues that this cosmological system is similar to the ancient Aztec concept of the universe as being in continuous war between the supernatural forces of opposites such as light and dark, North and South, and hot and cold. Madsen’s informants went so far as to explain that this theory of opposites predates God. His informants went on to explain that God created the Devil as his opposite just as He created everything in relation to its antagonistic counterpart. According to this theory, mankind has not yet discovered how to match up all the opposing halves as created by God. This theory of opposites also defines the whole of existence as temperate because it is made up equally of the opposite values of hot and cold which balance one another.
With an understanding of this theory of opposites, Madsen concludes that the indigenous groups of Latin America accepted humoral medicine because it was compatible with their cosmology. He also argues that they accepted humoral medicine because of its effectiveness. Accordingly, he argues that the Spanish did not force the indigenous populations to accept the European medical system but allowed them to assimilate to it as they chose. Madsen explains that this led to an eclectic assimilation where the indigenous groups did not attempt to imitate the European medical system but rejected parts of it, such as the wet-dry dichotomy, which did not fit in with their cosmological system. If one was to ignore all the evidence in support of hot-cold medicine’s indigenous origin, Madsen’s argument here provides perhaps the best support for the theory that hot-cold medicine originated in Europe. His argument does a fair job of explaining the possible process of how humoral medicine might have been adopted in Latin America. The fact that hot-cold medicine varies from community to community and the linguistic and cosmological evidence brought forth by anthropologist like Ellen Messer, however, outweigh the strength of Madsen’s argument for a European origin.

Problem of Variation

In 1988, George Foster published an article entitled “The Validating Role of Humoral Theory in Traditional Spanish-American Therapeutics” in order to address a problem he found with the way in which anthropologists (including himself) had studied hot-cold medicine. Foster demonstrates that data about hot-cold values and the categorization of items as either hot or cold was collected for the most part, from only a few informants.
This allowed anthropologists to conclude that there was community-wide agreement on these values. Foster attempts to explain the reason for why in actuality, community wide agreement does not always exist. Foster begins his explanation with a discussion of Holly Mathew’s article written about the same subject.

Holly Mathews on Individual Variation

While anthropologist Holly Mathews does not discuss the origin debate directly in her article entitled “Context-Specific Variation in Humoral Classification,” she does discuss and attempts to solve some problems she found in previous work done on Latin American hot-cold medicine. She believes that hot-cold classifications are organized by context and the hot or cold values assigned to items vary in accordance with the task being performed. Mathews explains that previous research on hot-cold medicine focused on the shared content of cultural categories, which stems from the assumption that there is a shared culture between the societies that practice hot-cold medicine. Mathews feels that this emphasis on shared content was enacted because it was easier than attempting to study individual differences in a systematic way. Reliance upon this assumption has created a problem because it has not allowed anthropologists to account for individual differences in belief and behavior. As a result, anthropologists have made use of generalizations when describing hot-cold medical systems. Mathews believes that the use of generalizations, “...have contributed little to the understanding of the acquisition and transformation of culture as an individual process” (Mathews 1983: 827).

Generalizations have led to little understanding because as Michael Logan explains in “Anthropological Research on the Hot-Cold Theory of Disease: Some
Methodological Suggestions”: “all too often data collected from a few informants are presented as being representative of entire communities, ethnic populations, or even entire countries” (Logan 1977: 99). Most significantly, anthropologists studying hot-cold medicine in Latin America have failed to recognize that there may be patterning involved in individual variation. Mathews is concerned with this lack of information on the patterning involved in individual variation because she feels that it could demonstrate how cultural systems are shared and how they were developed (i.e. the origins of hot-cold medicine).

Beyond variation between individuals, Mathews also examines the ways in which an individual’s classifications might change over time and from context to context. Mathews examines this variation by focusing on situational factors. Situational factors deal with issues like how individuals learn hot-cold values, how they utilize evidence to make these classifications, and how they arrive at the classifications for items not typically encountered in everyday experiences. Mathews believes that a focus on the individual has the potential to reveal insights into the classification process and to explain the range of cultural sharing.

Mathews collected her data from fieldwork done in Oaxaca, Mexico. Mathews developed and followed a rather systematic process for collecting her data on individual variation of hot-cold classifications. She administered a series of twenty elicitation tasks to twenty male and twenty female informants. They were asked to rate ninety-eight different foods as hot or cold. After a four month period, these same informants were asked to perform this task again. In addition to this process, Mathews also recorded
systematic observations of classifications from different behavioral contexts in sixteen different households. Mathews explains that the behavioral tasks she observed can be organized into three categories or context types: daily and ritualistic food preparation and consumption, sexual behavior regulation, and illness diagnosis and treatment. All three context types are governed by concepts about maintaining a balance between hot and cold.

In the food preparation and consumption context, Mathews identified the key principle behind the classification of either a hot or cold value as dealing with the physiological effects that certain foods have on the body when consumed. Cold foods are thought to cause stomach distension and a bloated feeling, which may lead to pain and constipation. Hot foods are often associated with digestive disorders like gas, diarrhea, and heartburn. Mathews also discusses what she calls the danger dimension as some foods can be classified by dangerous physiological effects. Those foods which cause repeated damage are isolated and labeled as either hot or cold. Mathews concluded that agreement about the danger of a few of these foods have increased over time as more people came to experience their damaging effects. And with this agreement came the dangerous food’s incorporation into a body of culturally shared knowledge meant to advise the entire community about the dangers of certain foods. Foods that do not cause damaging effects, however, are rarely classified the same throughout the community. In other words, only dangerous foods are classified universally as either hot or cold by a majority of the community’s members. The purpose of meal preparation, therefore is to balance out or neutralize those foods thought to be dangerous. This is accomplished by
serving combinations of dangerous hot and dangerous cold foods. Dangerously hot-cold items are organized into routine combinations as parts of set menus. These set menus work to both guarantee that the damaging effects of dangerous foods are decreased and to simplify what would otherwise be a very complex classification system. This makes meal preparation difficult when the people of Oaxaca encounter new foods for which they have no routine combination. When they do incorporate new foods into their meals, the Oaxacans often rely on analogy. Analogy allows them to treat novel foods the same way in which a food that it closely resembles is treated.

Of course, there are many times where the expected experience of food consumption does not occur. Individuals react to this by interpreting, explaining, and then acting in accordance with individualized ideas about food, which are based on personal experience. In addition to the occasional unexpected experience, there are also individuals who can eat dangerous foods without feeling harm. Mathews found that these individuals use principles of physiological effects to adjust cultural classifications and tailor them to personal experience.

There is a community wide belief that some individuals are abnormally hot or cold and that this will manifest itself later in life. For example, they believe that “hot” individuals suffer more cold illnesses and have a higher sexual desire. Also there are certain points in the life cycle when everyone is believed to be more susceptible to imbalance, making them more vulnerable to illness and sexual dysfunction of the opposite valence. For example, adolescents are considered more “hot” than children and adults. Women are thought to change valence during their menstruation. They are
considered colder because of a loss of blood (which is hot) and are more susceptible to hot illness. During pregnancy, women go through a hot period where they and their unborn child are more susceptible to cold illness.

Neutralization is used to control the sexual behavior of others. “Abnormal sexual behavior” is attributed to excessive heat or cold. For example, an imbalance of cold is thought to cause promiscuity while a hot imbalance is thought to lead to a weakened sexual drive. “Abnormal sexual behavior” is treated similarly to food preparation. There is a complicating factor though because it is not as simple as balancing hot individuals with cold. Sexual drives are conceived of as states or conditions that can only be altered in degrees of effectiveness (stronger or weaker). They rely on a heuristic that organizes a ranking of available substances ordered by effectiveness to decide treatment. They begin with the weakest and proceed to the strongest treatment only when necessary in order to avoid creating an imbalance in the other direction.

Individual variation also occurs when deciding on the remedies for treating an illness. While some remedies might be handed down through families, they are always subject to modification that is based on personal experience. While there are routine treatments for common illnesses, Oaxacans often rely on analogy (as seen earlier), precedent, or sequencing when treating less common illness. With precedent, informants attempted to compare the current illness with a similar past illness. The Oaxacan people rely on precedent because it is easier than trying to remember lists of actual remedies. Often past illnesses are not remembered in their entirety but the overall structure (illness, remedy, outcome) is remembered. Mathews explains that memory is often facilitated by
the strong emotions associated with past illnesses. Remedies often fail and illness symptoms may change over time, which forces people to rely on a series of treatment choices or sequences. Sequences have developed over time and help to standardize the process of treatment so that individuals can rely on a tested process rather than attempting to create their own (untested) treatment process.

Mathews finds in conclusion that hot-cold classifications are subject to modification by both the physical context and an individual’s context of past and present experience. In this way, context accounts for much of the variation between individuals when making hot and cold classifications. Instead of ignoring these variations and focusing on the underlying concepts behind these classifications, Mathews works to emphasize the importance of variation between individuals. Mathews’ arguments are important to the origin debate because they suggest that much of the previous research done of hot-cold medicine failed to take into account individual variation. The existence of individual variation in hot-cold medicine adds another layer of complexity to this system of medicine, making it all the more difficult to trace hot-cold medicine to a European origin. The community and individual variability of Latin American hot-cold medicine demonstrates the need for additional research to be done on the subject. This research should focus on the unique qualities of the different hot-cold medical systems found throughout Latin America rather than on comparing them to European humoral medicine, which is an outdated system.

Foster’s *Validating Role of Humoral Theory*

In “The Validating Role of Humoral Theory in Traditional Spanish-American
Therapeutics,” Foster attributes individual variation to his claim that hot-cold theory plays more of a validating and legitimizing role than it serves as a guideline for treating illness. Instead, Foster argues that the treatment of illness is based more upon empirical remedies. Hot-cold theory then fulfills its validating role and is used to explain why a particular empirical remedy was utilized: “[empirical remedies] can be rationalized in terms of humoral medicine but are in origin, probably independent of it” (Foster 1988: 130). In other words, deciding upon treatment for an illness is based upon prior experience. For example, if someone is sick and is successfully treated, the treatment is not seen as a fluke but validated by its success being explained in terms of hot and cold. For Foster, this empirical rather than theoretical based treatment accounts for variations between communities and individuals within the same community. Furthermore, Foster also explains that experience driven remedies keep the medical systems of traditional Latin American communities in a continual process of change. By examining the inter and intra community variation and un-static nature of hot-cold medicine, Foster’s opinion in this article appears much less generalized and over simplified than his earlier work.

Although Foster’s argument illustrates an evolution of his ideas from his earlier work, he still holds strong to the theory that hot-cold medicine in Latin America originated in its entirety in Europe. In fact, Foster does not feel the need to adjust or even reargue his theory: “Whether the Hot and Cold properties of Mexican herbs represent pre-Conquest ideas is a moot point that need not be debated here.... I think it is quite evident that the basic structure of New World humoral pathology is not indigenous” (Foster 1988: 130). Foster’s argument that hot-cold medicine is not indigenous is
perhaps, not as evident as he claims, though. It seems instead that Foster’s argument about treatment being empirically based weakens his theory about the European origin of hot-cold medicine. If the hot-cold dichotomy is used to justify empirical treatment then perhaps it was adopted by the indigenous groups because it gave them a way to explain the effectiveness of their illness treatments, which incorporated maintaining a balance between hot and cold, that were utilized before the arrival of the Spanish.

What Variation Adds to the Debate

Beyond the scope of Mathews’ and Foster’s arguments, individual variation is also important when investigating the origin of hot-cold medicine in Latin America. If individual variation exists to such the extent that both anthropologists indicate, then the variation between communities must be quite a bit more than both Audrey Butt-Colson and George Foster (in his earlier work) claim. Colson makes a claim for the commonality between the hot-cold medical systems found throughout Latin America in order to extend her theories about Akawaio hot-cold medicine out to other communities. Foster attempts to simplify the hot-cold medical systems of Latin America, lumping them all together as derivatives of the European system of humoral medicine brought to the Americas by the Spanish. In these ways, both sides of the origin debate seem to underestimate the complicated and varied nature of hot-cold medicine as it exists in different communities throughout Latin America. Perhaps the hot-cold systems of every Latin American community should be treated as its own entity. There is little doubt that these systems influenced one another but that does not mean that each can be traced to a particular source. Each system has developed over time, actively changed and made
unique by it those who practice it.

Changes in Anthropology

There are a number of flaws in Foster’s theory of European origin. The greatest weakness in his theory deals with the anthropological context in which Foster first established his ideas about the origin of hot-cold medicine. While he wrote some of his work as late as the 1980s, he first developed his theory during the 1950s. Although Foster’s arguments for his origin have not changed much, the field of anthropology has changed in many ways since the 1950s. For example, Sherry Ortner explains that it was not until the 1960s that anthropologists like Clifford Geertz began to move towards thinking of culture as, “...a product of acting social beings trying to make sense of the world in which they find themselves” (Ortner 1984: 130). In other words, this change emphasized the ways in which individuals make active choices when establishing and maintaining the different elements of their culture. In writing during the 1950s, Foster focused instead upon the passivity of individuals practicing hot-cold medicine in Central and South America by claiming that it was merely brought to them by their European conquerors. Foster also tends to undermine the complex nature of the different hot-cold medical systems practiced in Latin America by arguing that they are all merely simplified versions of humoral medicine. The hot-cold medicine described by many of the anthropologists who did field work in different communities throughout Latin America is much more complex than this. As a result of this context, it seems like Foster often oversimplifies and overgeneralizes hot-cold medicine. Foster also appears ethnocentric at times when some of his descriptions of European humoral medicine are contrasted
with his descriptions of hot-cold medicine in Latin America. Take for example Foster’s claim that, “classical humoral theory is comprehensive, intellectually satisfying, and in terms of its premises, highly rational” and that, “a more beautiful model is difficult to imagine...” (Foster 1988: 121). In this way, Foster describes classic humoral medicine as rational and beautiful in contrast to its simplified form found in Latin America.

Foster’s own work also demonstrates some of the changes that anthropology has undergone since the 1950s. In *Culture and Conquest: America’s Spanish Heritage*, Foster argues against an earlier assumption in anthropology that cultures could remain completely isolated and unaffected by historic events like colonialism and the cultural contact that came out of it. While Foster’s argument most definitely contributed to the field of anthropology, with the case of hot-cold medicine’s origin he may have gone too far. In favor of recognizing the impact of the Columbian Exchange, Foster failed to consider the variability of hot-cold medicine and the cosmological evidence that supports the indigenous origin of hot-cold medicine.

Anthropological work on Latin American hot-cold medicine written during the 1980s, such as Holly Mathews’ “Context-Specific Variation in Humoral Classification,” appear also to have been influenced by some of the changes that occurred in the discipline of anthropology since the 1950s. Mathews emphasizes the importance of individual variation in the practice of hot-cold medicine instead of lumping the people of Oaxaca into one united mass that all adhere to the hot-cold dichotomy in the same way. In this way, the issue of Latin American hot-cold medicine has evolved somewhat along with the changes in anthropology in general. I have attempted to demonstrate in this
thesis, though, that the origin debate is in need of further research that incorporates the changes in anthropology more completely and focuses on hot-cold medicine in itself rather than working to compare it to European humoral medicine.

Chapter Four: Supplement to the Debate

In chapter three, I discussed the origin debate of Latin American hot-cold medicine directly. I discussed the strengths and weaknesses of both sides of the debate and the arguments of different anthropologists on the subject. In this Chapter I will discuss the debate more indirectly by explaining the arguments of E.N. Anderson and Peter Worsley who attempt to explain why the hot-cold dichotomy is practiced in many different parts of the world. I will also discuss how the hot-cold dichotomy is incorporated into much of the folk medicine of the United States.

Hot-Cold Medicine’s Popularity

E. N. Anderson’s “Why is Humoral Pathology so Popular” helps to put the
arguments represented in this thesis and the debate over the origin of hot-cold medicine into perspective. Anderson does so by attempting to explain why the underlying concepts of hot-cold medicine can be found in practice (either in the past and/or presently) throughout much of the world. According to Anderson, “no religion, no political ideology, no other scientific system has spread so widely” (1987: 331).

Anderson explains that humoral medicine provides a simple and economical coding that can be used for experiences common to all humans. Anderson mostly focuses on humoral medicine in China to prove her argument, but many of her ideas can be extended to include humoral medicine in general.

Anderson utilizes the ideas of Thomas Kuhn concerning paradigms to explain the resiliency of humoral medicine. According to Kuhn, people will persevere in a simple belief that they already hold. They will do so by accepting information that validates this belief and ignore information that refutes it. Anderson lists different characteristics of illness that make humoral medicine a logical system (one that is fixed as a paradigm). First of all, it is evident to all people that too much heat causes burn, heatstroke, etc. and too much cold causes conditions like frostbite and hypothermia. Fever and chills are also obvious signs of illness. It is therefore, practical to infer that excesses of heat and cold cause illness. Anderson also argues that humoral pathology provides an easy way to encode, store, and retrieve data about the diagnosis and treatment of illness. Based on this tendency, Anderson believes that binary codings and thereby the codings of humoral medicine, are the easiest ways to organize observations and experiences. Furthermore, the humoral theory of medicine is unlimited in its ability to expand and/or incorporate
new ideas. Anderson’s descriptions of humoral medicine help to explain how the concepts common to both humoral and hot-cold medicine spread out to different parts of the world and why the theory of an Old World origin, led by George Foster, has been able to dominate the debate over the origin of hot-cold medicine in Latin America.

Worsley on Universality

In contrast to Anderson’s arguments on how and why humoral medicine spread around the world, Peter Worsley argues that the hot-cold opposition may be universal. Worsley compares the hot-cold dichotomy to the male-female dichotomy, explaining that both oppositions are found throughout the world and are therefore universal concepts: “...the hot-cold opposition may be a universal, primordial opposition, like male-female, which is likely to be seized upon in all cultures as ‘good to think’ and therefore, good to classify with” (Worsley in Messer 1987: 344). Worsley also argues that because hot and cold are inherent concepts, it makes sense that they are often utilized when classifying objects, people, places, and activities. Worsley’s assertion that the hot-cold dichotomy might be universal helps to strengthen the argument that hot-cold medicine is indigenous to Latin America. If the hot-cold opposition is universal and there is a universal need to prevent and treat illness, then it does seem possible that hot-cold medicine might develop in different places independent of one another.

Hot and Cold in U.S. Folk Medicine

Humoral medicine may seem quite foreign to the modern/western reader but some of its concepts, especially the hot-cold principle of opposites, are really not so foreign at
all. Despite the dominance of scientific medicine in the U.S., many people still look to home remedies, holistic and folk medicine to overcome illness. Often times, these less scientific remedies get their roots from the humoral theory of medicine. This is best exemplified by some of the widely used treatments for the common cold. The fact that we refer to this illness as a “cold” even reflects humoral theory. Contrary to popular belief, cold weather or being temporally cold does not make people more susceptible to “catching a cold.” There are a number of explanations for the rise in cold cases during the winter months. For examples, it is easier to spread germs during the winter when people are stuck inside and in close contact with one another and a decrease in ventilation allows germs to remain alive for longer. Many of the ways people combat the cold relate to humoral pathology, especially the principle of opposites and the hot-cold theory. The following statements, often heard when discussing cold avoidance and treatment, are examples of this: “Don’t sleep with the window open, you’ll catch a cold,” “Let me feel your forehead for a fever,” and “Here’s some chicken soup to make you feel better.”

I think that these examples illustrate two things. It shows how the practice of hot-cold theory is a part of our own society and helps to establish that there is some truth behind these beliefs. After all, a person’s forehead does often heat up when they are sick, although a hot forehead does not necessarily indicate illness. Wayland D. Hand discusses home remedies and the less scientifically based system of medicine as it exists in the western world in “Folk Medicine Magic and Symbolism in the West.” His most relevant contribution to the topic of humoral medicine deals with the principle of reversal. This concept can be equated to the principle of opposites, which is so much a
part of humoral theory. Hand describes some very interesting treatments for illness in this essay. By reading his article, it becomes apparent that western folk medicine often relies on a great amount of symbolism. Symbolism can be a very powerful thing when utilized by a group of people who subscribe to a similar belief system. Sometimes things like feeding hot chicken soup to a person with a cold are taken for granted as being an effective means of treatment. I myself can vouch that eating chicken soup makes me feel better (and I do not even like soup ordinarily). While one may claim that eating chicken soup is used as a treatment because we only think it makes us better, it is problematic to ignore hot-cold medicine’s nearly universal acceptance and explain its effectiveness merely in terms of having psychosomatic effects. While there is no scientific evidence that balancing out hot and cold prevents or treats illness, it seems like there must be some truth behind the effectiveness of the hot-cold dichotomy because of its resiliency throughout time and different parts of the world.

Conclusion

Discussion of hot-cold medicine may have died off since the 1980s, but the subject is far from completely researched and understood, especially in light of all the changes in anthropological theory that have occurred in recent years. The work of anthropologists like George Foster have opened up avenues for further research on both hot-cold medicine in general and determining its origin. While anthropologists like Robert Redfield and Alfonso Villa Rojas demonstrated the variability of hot-cold medicine, there is definitely still research to be done on mapping out the ways in which hot-cold medicine varies amongst communities and between individuals. Research on
the origin of hot-cold medicine has also varied greatly according to the different
perspectives of people like Ellen Messer, Alfredo Lopez Austin, and William Madsen. In
this thesis, I have brought forth these various perspectives on hot-cold medicine,
concentrating on the linguistic and cosmological evidence for the indigenous origin of
hot-cold medicine. I also attempted to demonstrate the ways that research on hot-cold
medicine has failed to emphasize the importance of individual variation by presenting
Holly Mathews’ and Foster’s views on the subject. Lastly, I discussed the two
contrasting views of E. N. Anderson and Peter Worsley who attempt to explain the
popularity of the hot-cold dichotomy. Worsley’s argument on the universality of the hot-
cold dichotomy is strengthened by the fact that the hot-cold dichotomy can even be found
in Western folk medicine. The near universality of the hot-cold dichotomy lends strong
support to the theory that the practice of hot-cold medicine in Latin America originated
independent of European humoral medicine.

Maintaining a balance between hot and cold is perhaps a bare-bones but
nonetheless innate part of many human societies. In this way, the argument for the
independent invention of Latin American hot-cold medicine is similar to the well-known
argument in anthropology, that agriculture was independently invented in different
regions of the world. While agricultural techniques did spread out and influence one
another, many anthropologists argue that all the agricultural systems of the world can not
be traced in a single source but that many of these systems must be understood as
products of independent invention. The origin of Latin American hot-cold medicine
should be understood along these same lines, as independently invented by the
indigenous groups of Latin America and influenced later by the specific practices of European humoral medicine.
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